Claims

1. A method for producing a cable (1, 101) including:

- at least one transmissive element (2); and

- an expanded and cross-linked coating layer (5) in a radially outer position with respect to said at least one transmissive element (2), said coating layer (5) comprising a composition including an expandable and cross-linkable polymeric material;

said method comprising the following steps of:

a) extruding said composition;

b) forming a coating layer made of expandable and cross-linkable polymeric material with the composition thus extruded;

c) expanding said coating layer made of expandable and cross-linkable polymeric material; and

d) cross-linking said coating layer made of expandable and cross-linkable polymeric material;

characterized in that said expanding and cross-linking steps c) and d) are carried out by heating said coating layer made of expandable and cross-linkable polymeric material at atmospheric pressure by means of a heating fluid.

2. The method according to claim 1, wherein said heating fluid is subjected to forced circulation.

3. The method according to claim 1, wherein said heating fluid is subjected to forced circulation at a rate of between about 2 and about 80 m/s.

4. The method according to claim 1, wherein said expanding and cross-linking steps c) and d) are carried out by heating said coating layer made of expandable and cross-linkable polymeric material to a temperature comprised between about 120°C and about 400°C.

5. The method according to claim 1, wherein said heating fluid is selected from the group comprising: air, inert gases.

6. The method according to claim 1, wherein said composition comprises at least one expanding agent and at least one cross-linking agent.

7. The method according to claim 6, wherein said at least one expanding agent and said at least one cross-linking agent have respective decomposition temperatures which differ from each other at most of about 50°C.

8. The method according to claim 6, wherein said at least one cross-linking agent is selected from the group comprising: organic peroxides, sulphur.

9. The method according to claim 8, wherein said at least one cross-linking agent is selected from the group comprising: 2,5-dimethyl-2,5-bis-(ter-butylperoxy)hexane, 2,5-dimethyl-2,5-bis-(ter-butylperoxy)hexine-3-di-ter-butylperoxide, bis-(ter-butylperoxyisopropyl)benzene, ter-butylcumylperoxide, dicumylperoxide, 4,4'-di-ter-butylperoxy-n-butylvalerate, ter-butylperoxy-3,5,5-trimethylhexanoate, 1,1-di-ter-butylperoxy-3,3,5-trimethylcyclohexane, ter-butylperoxybenzoate, dibenzoylperoxide, bis-(2,4-dichlorobenzoyl)peroxide, bis-(p-chlorobenzoyl) peroxide, 2,2-di-ter-butylperoxybutane, ethyl-3,3-di-ter-butylperoxybutyrate, 2,2'-azo-di-(2-acetoxypropane).

10. The method according to claim 6, wherein said at least one expanding agent is selected from the group comprising: oxydibenzyl sulphonhydrazide, azodicarbamide, paratoluene sulphonylhydrazide, mixtures of organic acids with carbonates and/or bicarbonates.

11. The method according to claim 1, further comprising the step of cooling said cable (1, 101) provided with said expanded and cross-linked coating layer (5).

12. The method according to claim 1, further comprising the step of providing said cable (1, 101) provided with said expanded and cross-linked coating layer (5) with a metallic screen (7).

13. Method according to claim 12, further comprising the step of coating said metallic screen (7) with an outer sheath (10).